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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,956	12/20/2001	Benjamim Tang	35706.5700/65	5412
34398	7590	10/22/2007		
THEODORE E. GALANTHAY NOBLITT & GILMORE, LLC SUITE 6000 4800 NORTH SCOTTSDALE ROAD SCOTTSDALE, AZ 85251			EXAMINER TRUONG, LAN DAI T	
			ART UNIT 2152	PAPER NUMBER
			MAIL DATE 10/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/029,956

Applicant(s)

TANG ET AL.

Examiner

Lan-Dai Thi Truong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7, 9-15 and 17-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7, 9-15, 17-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This action is response to communications: application, filed 12/20/2001; amendment filed 07/10/2007. Claims 3-7, 9-15, 17-36 are pending; claims 3-6, 9-10, 17, 20-21 are amended, 36 are added

2. Claim 36 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and 35 U.S.C. 101 as set forth in this Office action.

Claim rejections-35 USC § 112

3. Claims 3-7, 9 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 36:

Lines 4-5, Unclear if input signal refers to one of the plurality of outputs of said FIFO

Lines 6, unclear "an output of said FIFO of said FIFO register" refers to one of the plurality of outputs of said FIFO

Line 7, "the fill rate of said FIFO register" may cause insufficient antecedent basis

Line 8, "an output" refer to "an output of said FIFO of said FIFO register" in line 6

Line 9, "an input" refer to "an input" to line 6, and

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“the output of said phase detector” may cause insufficient antecedent basis

Line 10, “an output” refer to “an output” refer to “an output of aid phase detector” line 9

Line 12, “an output” refer to “the output of said narrow band loop filter” line 11

Line 13, “the output of the phase shifter” may cause insufficient antecedent basis

Line 14, “an output” refer to “the output of said phase shifter” line 13

Line 16, “an output” refer to “the output of the phase detector” line 15

Lines 17, “the output of said wideband loop filter” may cause insufficient antecedent
Basis

Line 21, “the phase” may cause insufficient antecedent Basis

Line 21, “the output of the VCO” may cause insufficient antecedent Basis

Line 22, “the output of the narrow band loop filter” may cause insufficient antecedent
Basis

Line 24, “the receive lock” may cause insufficient antecedent

Basis

Claim rejections-35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 3-7, 9 and 36 are rejected under 35 U.S.C. 101 because “a dual loop data serializer” comprising a register, serializer, detector, filter, shifter and oscillator (i.e., software program) does not include any functional structure of a serializer (i.e., no hardware structure of

an apparatus). An apparatus comprising software program is considered as program per se, which is not one of the categories of statutory subject matter.

“Information discloses statements (IDS)” objections

4. IDS is objections as being missing related application numbers as indication provided by applicant in the specification, paragraph [0001], line 5, see §1.98

Response to arguments

5. New scopes of amended claims 10 and 17 are moot in view of the new ground(s) of rejection.

6. Applicant's arguments filed 07/10/2007 have been fully considered. But Applicant's arguments are not persuasive.

7. In response to applicant's argument to claim 10 with respect to the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

8. Regarding applicant's argument to claim 10 with respect to the cited references do not disclose data serialization in a plesiochronous system, In response to applicant's argument it is noted that the features upon which applicant relies (i.e., a plesiochronous system) are not recited in the rejected claim(s).

9. Regarding applicant's argument with respect to the motivation for combination of the Gu and the Song. In response to applicant's argument the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both of the cited references relate to same environment e.g. data synchronization system. The Song is used to overcome the shortcomings of the Gu ex: "connection between the FIFO register with phase detector;" it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Song's ideas of connection between the FIFO register with phase detector with into Gu's system in order to be able to detect different data rate between two different speed synchronize communication systems for providing improved compatible synchronize communication system has less acquisition time, see (Song: column 1, lines 38-58).

10. Regarding applicant argument to claim 17 with respect to the cited references do not teach feature of transmitting from none-secure to secure system are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., transmitting from none-secure to secure system are not persuasive) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim rejections-35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11 are rejected under 35 U.S.C 103(a) as being un-patentable over Wu (U.S. 6,329,859) in view of Gu (U.S. 6,901,126) in view of Filip (U.S. 6,081,572) in view of Schatz et al. (U.S. 6,744,787) and further in view of Momtaz et al. (U.S. 5,950,115)

Regarding claim 10:

Wu discloses the invention substantially as claimed, including a plesiochronous system can be implemented in a computer hardware or software code supports A PLL/DLL dual loop data senalizer: (column 1, lines 1-40)

However, Wu does not explicitly disclose steps of

Receiving a parallel data input and a data clock at a FIFO register

In similar art, Gu discloses a register receives a parallel transmit data and REFCLK see, (column 50-60)

Detecting a local reference at a phase/frequency detector (PFD) of a phase lock loop (PLL) receiving local reference: (Gu discloses communications between PLL/ and DLL, wherein PLL includes a phase frequency detector (PFD). The PFD has ability of receiving "the reference lock" which shares functionality with "a local reference" as claimed of PLL: abstract; figure 3; column 1, lines 40-50)

Phase locking a voltage controlled oscillator (VCO) of PLL to a local reference to suppress a phase noise of said VCO: (Gu discloses PLL includes a VCO coupled to PFD to receive signals from the PFD: column 5, lines 30-32; abstract; figure 3)

Filtering, at a delay lock loop (DLL), as signal representative of a fill levels: (Gu discloses the DLL includes "phase select circuit/filter" for selecting phase: figure 3, item 42)

Locking Pll to a frequency corresponding to a pre-filtered signal input to DLL: (Gu discloses technique of matching phase lock between PLL and DLL: column 3, lines 35-47)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Gu's ideas of applying operations of PFD and VCO into Wu's system in order to be able to minimize numbers of powers using, see (Gu: column 2, lines 35-40)

However, Wu-Gu does not explicitly disclose phase shifting an output of said VCO of said PLL in response to said filtering step

In analogous art, Filip discloses correlations of executions between phase detectors with phase shifter and VCO: (column 5, lines 16-62)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Filip's ideas of including phase shifter with Wu-Gu's system in order to be able to generate delay signal from received original signal, see (Filip: column 5, lines 23-34)

However Wu-Gu - Filip does not explicitly disclose receiving, at a parallel-in serial-out (PISO) serializer said parallel data VCO output

In analogous art, Schatz discloses PISO receives data from FIFO: (column 3, lines 1-56)

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Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Schatz's ideas of interoperating executions of PISO and FIFO with Wu-Gu - Filip's system in order to generate the nominal clock rate, see (Schatz: column 3, lines 15-24)

Wu-Gu - Filip - Schatz does not disclose receiving at serializer data VCO output; outputting a serialized data from PISO serializer with VCO output a transmit clock

In similar art, Momtaz discloses technique for triggering locks to nominal values: abstract

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Momtaz's ideas of triggering locks to nominal values into Wu-Gu - Filip - Schatz's system in order to insure synchronization process without reinitialization (Momtaz: column 1, lines 15-21) and reducing transmitting delay

Regarding claim 11:

This claim is rejected under rationale of claim 10

Claims 12-13 are rejected under 35 U.S.C 103(a) as being un-patentable over Wu-Gu-Filip-Schatz-Momtaz in view of Kirkpatrick (U.S. 6,476,681)

Regarding claims 12-13:

Wu-Gu-Filip-Schatz-Momtaz discloses the invention substantially as disclosed in claim 10, but does not explicitly teach wideband filter and narrowband filter

In analogous art, Kirkpatrick discloses loop filter has different kinds of such as and filter and narrowband filter: (column 2, lines 32-44)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Kirkpatrick's ideas of wideband filter and narrowband filter with

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Wu-Gu-Filip-Schatz-Momtaz's system in order to be able to adjust bandwidth, see (Kirkpatrick: column 2, lines 32-44)

Claims 14-15 are rejected under 35 U.S.C 103(a) as being un-patentable over Wu-Gu-Filip-Schatz-Momtaz in view of Clark (U.S. 6,323,910)

Regarding claims 14-15:

Wu-Gu-Filip-Schatz-Momtaz discloses the invention substantially as disclosed in claim 10, but does not explicitly translating into digital signal

In similar art, Clark discloses method for translating analog signals into digital signals

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Clark's ideas of translating analog signal into digital signals with Wu-Gu-Filip-Schatz-Momtaz's system in order to be able to process signal and adjust bandwidth, see (Kirkpatrick: column 2, lines 32-44)

Claims 17-18, 23-35 are rejected under 35 U.S.C 103(a) as being un-patentable over Gu (U.S. 6,901,126) in view of Filip (U.S. 6,081,572) in view of Rotzoll (U.S. 5,737,035) in view of Schmid et al. (6,735,291) and further in view of Schatz et al. (U.S. 6,744,787)

Regarding claim 17:

Gu discloses the invention substantially as claimed, including data retimer which can be implemented in a computer hardware or software code comprising:

Digital delay lock receiving an input data to be retimed and configured to recover a clock of said input data: (Gu discloses recover time system includes communication between the DLL and PLL: abstract)

Phase/frequency detector (PFD) receiving a local reference: (Gu discloses communications between PLL/ and DLL, wherein PLL includes a phase frequency detector (PFD). The PFD has ability of receiving "the reference lock" which shares functionality with "a local reference" as claimed of PLL: abstract; figure 3; column 1, lines 40-50)

However, Go does not explicitly disclose phase shifter configured in a feedback with PFD

In analogous art, Filip discloses correlations of executions between phase detectors with phase shifter: (column 5, lines 16-62)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Filip's ideas of including phase shifter with Gu's system in order to be able to generate delay signal from received original signal, see (Filip: column 5, lines 23-34)

However, Gu- Filip does not discloses phase/frequency detector, phase shifter and loop filter forming a dual loop

In similar art, Rotzoll discloses DLL includes phase detector, phase shifter and filter, see (column 11, lines 1-20)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Rotzoll's ideas of includes phase detector, phase shifter and filter into DLL with Gu- Filip's system in order to employ well-known technique into Gu- Filip's system for saving development time and resources

However, Gu- Filip- Rotzoll does not explicitly disclose SIPO

In analogous art, Schmid discloses each transmit circuit includes SIPO shift register, PISO shift register

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Schmid's ideas of interoperating executions of SIPO shift register, PISO shift register with Gu- Filip- Rotzoll's system in order to be able transmit data stream from non-secure channels to secure channels, see (Schimid: column 9, lines 30-35)

However, Gu- Filip- Rotzoll- Schmid does not explicitly disclose a parallel-in serial- out (PISO) senalizer receiving an input from said FIFO and outputting serialized data

In analogous art, Schatz discloses PISO receives data from FIFO: (column 3, lines 1-56)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invèntion was made to combine Schatz's ideas of interoperating executions of PISO and FIFO with Gu- Filip- Rotzoll- Schmid s system in order to generate the nominal clock rate, see (Schatz: column 3, lines 15-24)

Regarding claims 18:

This claim is rejected under rationale of claim 17

Regarding claims 23 and 29:

Those claims are rejected under rationale of claim 17

Regarding to claims 24-28, 30-35:

Those claims are rejected under rationale of claims 10, 23 and 29

Claims 19-22 are rejected under 35 U.S.C 103(a) as being un-patentable over Gu-Filip-Rotzoll- Schmid-Schatz in view of Kirkpatrick (U.S. 6,476,681)

Regarding claims 19 -22:

Gu-Filip-Rotzoll- Schmid-Schatz discloses the invention substantially as disclosed in claim 18, but does not explicitly teach wideband filter and narrowband filter

In analogous art, Kirkpatrick discloses loop filter has different kinds of such as and filter and narrowband filter: (column 2, lines 32-44)

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Kirkpatrick's ideas of wideband filter and narrowband filter with Gu-Filip-Rotzoll- Schmid-Schatz's system in order to be able to adjust bandwidth, see (Kirkpatrick: column 2, lines 32-44)

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusions

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan-Dai Thi Truong whose telephone number is 571-272-7959.

The examiner can normally be reached on Monday- Friday from 8:30am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob A. Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/16/2007


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10/19/07